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(54) Title: RECESSIVE PLANT VIRAL RESISTANCE RESULTS FROM MUTATIONS IN TRANSLATION INITIATION FAC-
TOR eIF4E

(57) Abstract: The present invention relates to methods of imparting virus resistance to plants. In one aspect, this method involves silencing a gene encoding a translation initiation factor eIF4E in the plant. In another aspect, this method involves overexpressing a heterologous translation initiation factor eIF4E in a plant. The present invention further relates to a genetic construct containing a nucleic acid molecule encoding a heterologous translation initiation factor eIF4E, as well as to an expression system containing the genetic construct and a host cell transformed with the genetic construct. The present invention also relates to transgenic plants, seeds, and plant parts transformed with the genetic construct. The present invention also relates to an isolated nucleic acid molecule encoding a mutant translation initiation factor eIF4E that is effective in imparting virus resistance in plants. The present invention also relates to a mutant translation initiation factor eIF4E and a method for making the mutant.

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